



IFW

PATENT

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Serial No: 10/777,416 Docket No: 2001075
Filing Date: 02/11/2004 Applicant: Hsing-Chi Hsieh
Examiner: BASINGER, SHERMAN D Art Unit: 3617
Title: FIN WITH A BLADE HAVING ADJUSTABLE CLOSED AREA

To: Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

RESPONSE TO OFFICE ACTION

Dear Sir:

The following is in response to the Office Action dated 11/30/2004:

AMENDMENTS TO THE CLAIMS

1-2. (Canceled)

1 3. (Currently amended) The fin with a blade having adjustable closed area as claimed
2 in claim 2 ~~4~~, wherein said zipper is connected to said blade by positioning said zipper in
3 a mold used to mold said blade, so that said plastic frame of said zipper is integrally
4 connected to said two adjacent sub-blades.

1 4. (Currently amended) ~~The fin with a blade having adjustable closed area as claimed~~
2 ~~in claim 2;~~ A fin with a blade having adjustable closed area, comprising:
3 a blade being lengthwise split into a plurality of sub-blades, so that said sub-blades
4 are separated from one another from an outer end of said blade to a near central point of
5 said blade; and at least one zipper being located between two said sub-blades that are

6 adjacent to each other, said zipper being adapted to zip up for said adjacent sub-blades
7 to provide a closed area, and said closed area being adjustable by zipping up said zipper
8 by different length to thereby regulate a propulsive force that may be produced by said
9 blade of said fin, wherein said zipper includes:

10 two toothed zipper tapes that may be closed or separated from each other; a pull tab
11 connected to said toothed zipper tapes for closing or separating said two zipper tapes; and
12 a plastic frame connected to two lateral sides and an inner end of said zipper tapes with
13 an outer periphery of said plastic frame connected to two adjacent edges of said two
14 adjacent sub-blades, and

15 wherein said plastic frame is provided along the outer periphery with a flange, and
16 said adjacent sub-blades are provided along the adjacent edges with a groove
17 corresponding to said flange.

1 5. (Currently amended) The fin with a blade having adjustable closed area as claimed
2 in claim 2 4, wherein said toothed zipper tapes are connected to said plastic frame by
3 sewing.

1 6. (Currently amended) The fin with a blade having adjustable closed area as claimed
2 in claim 2 4, further comprising a locating mechanism provided between said zipper and
3 said adjacent sub-blades.

1 7. (Currently amended) ~~The fin with a blade having adjustable closed area as claimed~~
2 in claim 6, A fin with a blade having adjustable closed area, comprising:

3 a blade being lengthwise split into a plurality of sub-blades, so that said sub-blades
4 are separated from one another from an outer end of said blade to a near central point of
5 said blade; and at least one zipper being located between two said sub-blades that are
6 adjacent to each other, said zipper being adapted to zip up for said adjacent sub-blades
7 to provide a closed area, and said closed area being adjustable by zipping up said zipper
8 by different length to thereby regulate a propulsive force that may be produced by said
9 blade of said fin, wherein said zipper includes:

10 two toothed zipper tapes that may be closed or separated from each other; a pull tab
11 connected to said toothed zipper tapes for closing or separating said two zipper tapes; and
12 a plastic frame connected to two lateral sides and an inner end of said zipper tapes with
13 an outer periphery of said plastic frame connected to two adjacent edges of said two
14 adjacent sub-blades, and

15 wherein said locating mechanism includes a plurality of pairs of locating holes
16 provided along said adjacent edges of said adjacent sub-blades from the outer end of said
17 blade to the near central point of said blade; and two holding ears downward extended
18 from two lateral sides of said pull tab; and said holding ears being adapted to detachably
19 connect to any selected pair of said locating holes.

1 8. (Original) The fin with a blade having adjustable closed area as claimed in claim
2 7, wherein said holding ears are substantially U-shaped, and each of said holding ears is
3 provided near a lower outer wall surface with a shoulder portion adapted to elastically
4 engage with a lower edge of said locating hole.

1 9. (Original) The fin with a blade having adjustable closed area as claimed in claim
2 8, wherein each of said U-shaped holding ears has an upper outer end formed into a
3 pressing arm that is normally upward projected from said locating hole.